

**RODOLIA CARDINALIS (MULSANT), THE VEDALIA
LADYBIRD (COLEOPTERA: COCCINELLIDAE) FEEDING
ON ICERYA PURCHASI MASKELL, COTTONY
CUSHION SCALE (HEMIPTERA: MARGARODIDAE)
IN LONDON GARDENS**

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ABSTRACT

The Vedalia ladybird *Rodolia cardinalis* (Mulsant), a cosmopolitan species native to Australia, is reported from two locations in London for the first time. Its continued presence will depend to a great extent on the survival of its prey, the recently established scale *Icerya purchasi* Maskell.

INTRODUCTION

On 30 September 2003 two adult specimens of an unfamiliar coccinellid were collected from the garden of a public house in Chelsea, London (TQ2777). These were subsequently identified as the Vedalia ladybird, *Rodolia cardinalis* (Mulsant), by Roger Booth. A further visit to the site by Max Barclay, Roger Booth and Darren Mann at dusk on 9 October 2003 found many *R. cardinalis*, together with its usual host, *Icerya purchasi* Maskell, on ivy (*Hedera helix* L.) growing over the boundary wall of the pub garden next to the pavement. Roger Booth visited the site again on the morning of 13 October 2003 and observed several adult *R. cardinalis* running over the leaves of ivy and other hedge shrubs along the adjacent pavement, together with abundant larval exuviae and thick infestations of *I. purchasi*. Many of the ladybird final-instar larval exuviae were empty, but several contained developing pupae or teneral adults. Another brief visit was made with A.J.W. (Tony) Allen during the early afternoon on 17 October 2003, when *R. cardinalis* adults were still active and both adults and larval exuviae were observed on property boundary walls as well as on foliage. On a visit to the area by Andrew Halstead on 22 October 2003, pupal exuviae of the ladybird were found on an *I. purchasi*-infested *Acacia dealbata* Link at a different site in Chelsea (TQ2677), some 300–400 m away from the first. In addition, active *R. cardinalis* larvae and pupae were observed at the original site on *I. purchasi* infested lime (*Tilia* spp.), *Viburnum* × *rhytidophylloides* Suring. and ivy. This is the first time that this ladybird has been recorded from the UK. Specimens have been deposited in The Natural History Museum, London, the Oxford University Museum and the Royal Horticultural Society's collections.

FIELD DESCRIPTION

Rodolia cardinalis is convex dorsally and short-oval in outline (Fig. 1). It resembles the scymnine ladybirds among the British fauna in having its surface covered with short, dense pubescence and in having short antennae, but is larger (2.6–4.2 mm), has 8-segmented antennae and rather stout, basally-thickened tibiae. British examples are mostly pitchy black above with smaller reddish markings, and while the species is variable in coloration, from almost all red to almost all black, typical examples are reddish with two pairs of dark markings and a dark suture on the clytra.



Figure 1. Two adult *Rodolia cardinalis* feeding outdoors on cottony cushion scale, 2003. Photo: Andrew Salisbury

DISCUSSION

Rodolia cardinalis is the ladybird that was introduced into California (USA) from Australia in the late 19th Century to control the cottony cushion scale, *I. purchasi*. This introduction saved the Californian citrus industry and is one of the most widely quoted examples of successful classical biological control. It is more or less host-specific on *Icerya* spp., at least for its development, and today the ladybird is found feeding on the scale in many places around the world (Clausen, 1978). As we are not aware of any commercial use in glasshouses of this ladybird for biological control in Britain, it is therefore likely to have either been accidentally imported with infested plants, or been illegally released. With the increasing frequency of *I. purchasi* occurring in Britain out of doors and on conservatory plants (Watson & Malumphy, 2004) the ladybird may become established and it could possibly have a controlling effect on the scale.

ACKNOWLEDGEMENTS

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